

Recent advances in assessment on clear water, soil and air

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Environment consists of land, water and air and is clean and pristine without pollution or human intervention. However, unsustainable use of resources causes imbalance in the natural environment. All kinds of human activities such as agriculture, industry, domestic usage and recreational affect our environment negatively due to contamination and pollution. Environmental degradation is usually related to technical faults, particularly when dealing with wastewater problems, prevention and final removal of waste and/or air polluting emissions, etc. Therefore, a comprehensive assessment on the technical feasibility of proposed solutions is crucial to reach success. For instance, a complete cost-benefit analysis and life cycle assessment of proposed solutions are needed prior to implementation.

Multiple facets in environmental pollution have been linked to health risks and environmental degradation. Evidence shows that toxic and hazardous chemicals released into the air, land or water can cause severe health effects (Batool et al. 2016). Therefore, investment in research and preventive actions are paramount to address human health effects and ecosystem damages associated with environmental issues. Rapid industrialization and population growth

particularly in developing countries lead to greater pressure on the availability of clean water resource and make water quality issue more complicated (Xuqing et al. 2016). These challenges need concerted actions to effectively reduce the consumption of hazardous materials by establishing comprehensive standards pertaining to the key areas of health and safety. Green concept like reduce, reuse and recycle as well as natural-based products should be promoted. Simple and high-end technologies to mitigate environmental problems in its early stages are developed previously, thus need to be applied in every aspect of development. Furthermore, sustainable development framework, combined with initiatives by various internal and external stakeholders will promote human well-being and eradicate any potential risks to human and environment, as results of exposure to toxic and hazardous materials (Issaka and Ashraf 2017). Global participation and cooperation including government and non-government agencies will help to improve this transdisciplinary issues.

Vehicles, airplanes, engines and industrial plants are main contributors to air pollution, responsible for global warming and other environmental problems. Water bodies can be contaminated due to water transportation activities, release of toxic chemicals, leaks to water body or due to oil spill, wastage deposition and landfill seepages (Gharibreza et al. 2013). Environmental pollution may also be due to the release of oil, chemicals and other substances to land or land use and occupation that change the quality of the land. Over the whole world contaminated sites abound everywhere. Along with chemicals debris and waste material is also the major cause of contaminated environment (Khan et al. 2015).

Air, water and land altogether make the environment. Any substance that affects negatively on the environment is called contaminants. According to United States Environmental Protection Authority (USEPA) “any physical, biological, chemical, or radiological substances or matter that has an

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adverse effect on air, water, or soil” is called contaminants (USEPA 2016). It is dangerous and harmful to human health, environment and wildlife. Few substances entered to our environment can cause immediate danger to human life by causing acute or chronic diseases or may be death to human and deteriorate the quality of ecosystem (Prabhakaran et al. 2016). Moreover, few substances like PCBs and PAHs are persistent in nature and can interrupt our food chain.

Preserving and conserving our environment and ecosystem are vital towards achieving sustainable development. This special issue on assessment of clean water, soil and air involves all biological, chemical and physical processes and interactions altering flora and fauna diversity, as well as polluting water, air and soil properties. The scope includes diverse subject areas associated with all aspects of origin, transport, deposition and accumulation of pollutants, freshwater, marine, aquatic, soil and atmospheric pollution. The aim of this special issue is to transfer and disseminate knowledge of environmental protection, as well as to encourage efforts for implementation of reliable and feasible solutions to safeguard our natural resources.

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